

A Shot in the **Dark**

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How to Study

- Go through all the slides
- Create **condensed notes**
- One section in notes per slide set/topic
- Study your few sheets
- Read more on unclear topics
- You **know the feeling** of understanding

How to Study

- Go through all the slides
- Create **condensed notes**

Pretend cheat sheets allowed

- Read more on unclear topics
- You **know the feeling** of understanding

Remember, knowing the
name of something is
definitely not the same as
knowing something.

This applies to tests...

Never Repeat a Mistake

- Know how to do previous problems
- Take a practice exam and focus on errors
- Practice problems you mess up
- Review any errors on midterm, HWs

Test Taking Tips

- Find all the important words in the course
- Learn their meanings
- Memorize all the units you need

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(1) Boosts Confidence

(2) Saves Time

If you **never panic**,
you'll do better than
most in all **life**
situations.

Let's Not Waste Time

- Units: If unsure, ask for clarification
- Power of 10 vs power of 2
- **Stored Data: usually powers of 2**
- **Network Bandwidth: often powers of 10**
 - And expressed as bits vs bytes (x8)

Units

1 Byte 8 bits

1 KByte 2^{10} bytes

1 Mbps 10^6 bits per second

1 GHz 10^9 Hz

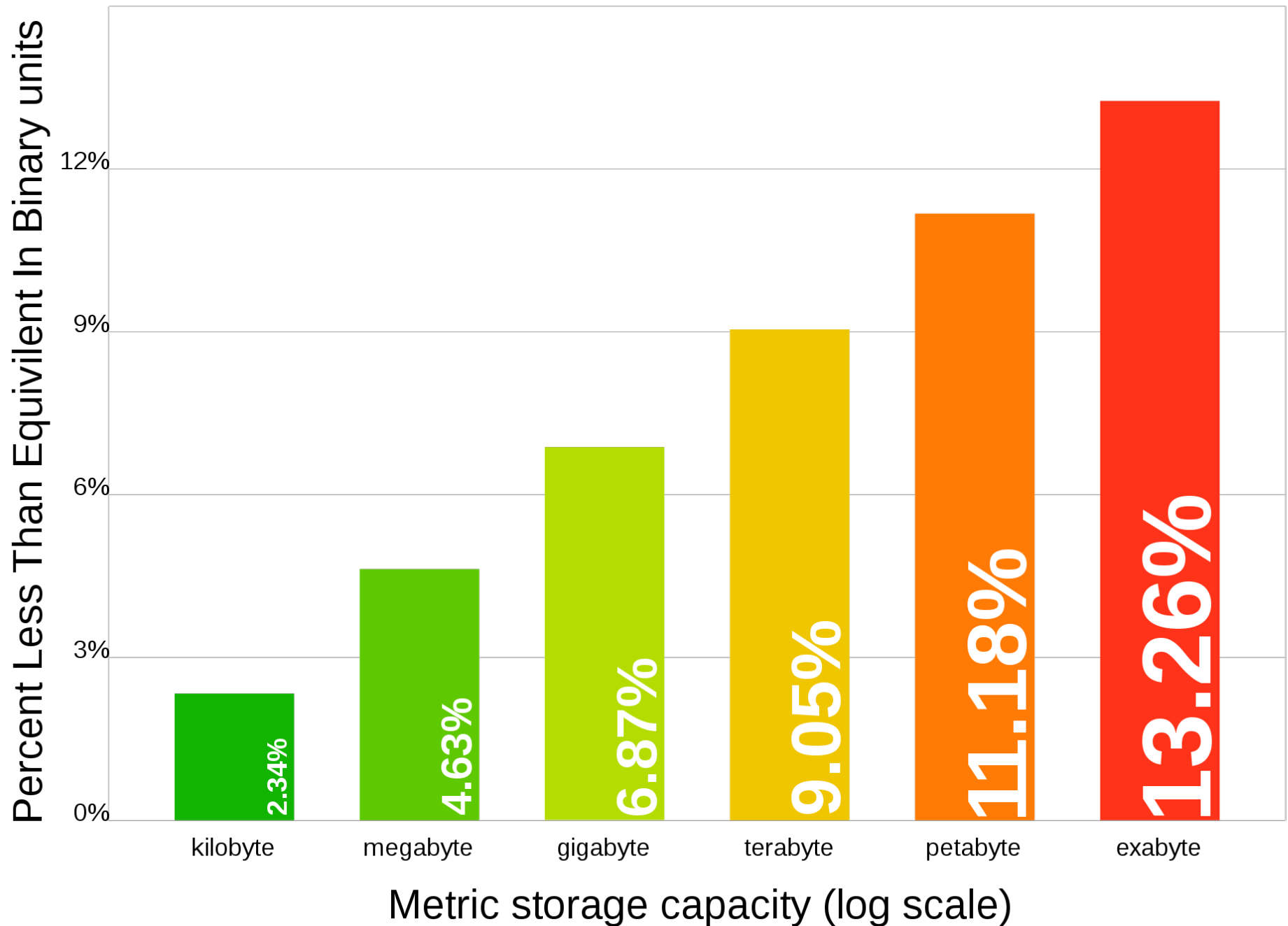
Multiples of bytes

v · d · e

SI decimal prefixes		IEC binary prefixes	
Name (Symbol)	Value	Name (Symbol)	Value
kilobyte (kB)	10^3	kibibyte (KiB)	$2^{10} = 1.024 \times 10^3$
megabyte (MB)	10^6	mebibyte (MiB)	$2^{20} \approx 1.049 \times 10^6$
gigabyte (GB)	10^9	gibibyte (GiB)	$2^{30} \approx 1.074 \times 10^9$
terabyte (TB)	10^{12}	tebibyte (TiB)	$2^{40} \approx 1.100 \times 10^{12}$
petabyte (PB)	10^{15}	pebibyte (PiB)	$2^{50} \approx 1.126 \times 10^{15}$
exabyte (EB)	10^{18}	exbibyte (EiB)	$2^{60} \approx 1.153 \times 10^{18}$
zettabyte (ZB)	10^{21}	zebibyte (ZiB)	$2^{70} \approx 1.181 \times 10^{21}$
yottabyte (YB)	10^{24}	yobibyte (YiB)	$2^{80} \approx 1.209 \times 10^{24}$

See also: [Multiples of bits](#) · [Orders of magnitude of data](#)

Comparison of Decimal and Binary Units



What is a nibble?

How We Make the Exam

- List all topics (since midterm) by lecture
- Pick 1 problem per topic from database
- Create first draft
- Cut down number of problems
 - Kill very difficult ones
 - Murder super long ones
 - Asphyxiate poorly worded ones
- Add in 1-2 review questions

Key Topics Before Midterm

- Layering/Network Stack
- Ethernet/Bridging/Switching/Routing
- DNS/IP/BGP
- Things kind of build on each other...

Topics After Midterm

- Tunnels
- TCP
- Congestion Control
- CDNs
- P2P
- VoIP
- Multimedia
- QoS
- Mobile IP
 - Issue: RPF
- Wireless
- Questioning IP
- Security/Firewalls
 - Also: NAT

Try to be logical.

Once you're lost, not remembering terms and acronyms,

Don't panic.

Think through with a **logical engineering** mind and try to **think what you would do/how you would design.**

Final Exam

- Where: Scaife Hall, 125
- Day: Tuesday, December 20, 2011
- Time: 8:30 **AM** – 11:30 **AM**

Good luck!

GitHub:

Git it, got it, good.

```
git clone git://github.com/theonewolf/15-441-Recitation-Sessions.git
```